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NAVSTA NEWPORT RI
5090.3a

C-NAVY-01-02-1478W

February 20, 2001

Project Number N5278

Ms. Kymberlee Keckler
U.S. Environmental Protection Agency
Federal Facilities Superfund Section
1 Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

Reference: CLEAN Contract No. N62472-90-D-1298
Contract Task Order 0218

Subject: Response to Additional EPA Comments
Revised Draft Final Remedial Investigation Report
Old Fire Fighting Training Area, Naval Station Newport, Newport, Rhode Island
Received in EPA letter to James Shafer of the U.S. Navy, January 16, 2001

Dear Ms. Keckler:

The Navy has reviewed the additional comments generated by EPA in their review of the Navy's response to the EPA's comments on the Revised Draft Final Remedial Investigation Report for the Old Fire Fighting Training Area site. The Navy's response were provided in a letter from Tetra Tech NUS dated December 20, 2000. The Navy's responses to EPA's additional comments are provided in Attachment A (two copies). EPA's comments are presented verbatim in italic type followed by the Navy's response in standard type. Comments are numbered consistent with the EPA's letter. The report is being revised to address the comments.

Please contact me or Jim Shafer of the Navy if you have any questions about this transmittal or would like to discuss this matter further.

Very truly yours,


James R. Forrelli, P.E.
Project Manager

JRF:rp

Enclosure

c: J. Shafer, NORTHDIV (w/enc. - 3)
M. Griffin, NavSta (w/enc. - 2)
P. Kulpa, RIDEM (w/enc. - 4)
K. Finklestein, NOAA (w/enc.)
M. Imbriglio, NAVSTA/RAB (w/enc. - 5)
J. Stump, Gannet Fleming (w/enc. - 2)
D. Egan, TAG (w/enc.)
G. Tracey, SAIC (w/enc.)
J. Trepanowski/G. Glenn, TtNUS (w/enc.)
File N5278-8.0 (w/enc.)/File N5278-3.2 (w/o enc.)

ATTACHMENT A
Responses to Additional Comments from the
U.S. Environmental Protection Agency
Old Fire Fighting Training Area Revised Draft Final RI (October 2000)
Comments dated January 16, 2001

No. Comment/Response

5. *Comment: The only chemicals discussed in the uncertainty section are those chemicals which were retained as COPCs and given the NTX designation. There are several chemicals (metals) which were not retained as COPCs with the rationale that they were not retained due a lack of toxicity values. These chemicals should also be retained as COPCs and evaluated qualitatively in the uncertainty section of the risk assessment. In addition, delta-BHC is retained as COPC (NTX) in subsurface soil (Table 6-2.2), but not included in the uncertainty section discussion. Please include a discussion on this chemical as well.*

Response A discussion of the remaining chemicals discarded from consideration as COPCs will be added to the uncertainty section.

- 6 *Comment: The Navy Interim Final Policy was not developed in accordance with EPA Region 1 guidance (EPA, August 1995) regarding the elimination of COPCs based on background comparison. Moreover, EPA has not endorsed use of the procedures outlined in this policy for the OFFTA site.*

Sections 1.1 (b), 2.6, and 6.1 of the Federal Facilities Agreement require that remedial investigations under CERCLA are conducted in accordance with EPA regulations, policy, and guidance. Therefore, chemicals should not be eliminated from the risk assessment based on background comparisons during the COPC selection process. These chemicals should be quantitatively evaluated in the risk assessment and comparisons to background should be performed in the risk management process.

EPA guidance clearly states the COPC list is to be developed based primarily on comparison to risk-based standards (RBCs or PRGs). Risk estimates are to be calculated for all COPCs. In the risk management stage of the RI, statistical comparison to sound background data may be used to determine if risk drivers are present owing to background conditions. At this point, risk managers may agree to exclude a risk driver from the COC in the Record of Decision if the risk driver is clearly present owing to background conditions.

It is particularly important to evaluate the arsenic data closely because naturally occurring arsenic can become more bioavailable in the presence of petroleum products. (As you know, oil and gasoline were reportedly used onsite to ignite structures for fire training purposes.) I recommend that the RI focus its efforts on the risk characterization. In an effort to reach resolution, the RI should provide a quantitative estimate of the risk that is associated with the background chemicals (I note, however, that a background value for arsenic is still under negotiation with RIDEM). This approach would allow evaluation of whether any of these "background" contaminants should, in fact, be considered Chemicals of Concern in subsequent decisions, and it would provide clear information about risks from all exposures to communicate to the community and other stakeholders. I understand that this is an approach that Navy headquarters supports. As you know EPA's national guidance on this issue will be issued shortly and will be consistent with the Region I Risk Update (EPA, August 1995).

Response The CNO Interim Final Policy on the Use of Background Chemical Levels was developed after consultation with representatives from U.S. EPA HQ. The use of background data, as currently described in the Policy, was acceptable to these representatives. The CNO Policy is consistent with CERCLA because CERCLA precludes cleaning up naturally occurring constituents at background levels:

Response to Additional EPA Comments
Old Fire Fighting Training Area Revised Draft Final RI

"The President shall not provide for a removal or remediation action under this section in response to a release or threat of a release of a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena, from a location where it is naturally found...." CERCLA [Section 9604(a)(3)]

In addition the CNO Policy is also consistent with RAGS:

"Background sampling is conducted to distinguish site-related contamination from naturally occurring or other non-site related levels of chemicals."

U.S. EPA, RAGS Part A, 12/89

It is very important to distinguish between site-related and background constituents. The Navy is not responsible for cleaning-up or evaluating risk associated with background constituents, only site-related constituents. By following the process established in Figure 1 of the CNO Background Policy (attached), both site data and background data are collected. The site data is first screened against risk-based benchmarks (e.g. Region 9 PRGs or Region 3 RBCs). From this step, a list of COPCs is developed from constituents exceeding the appropriate benchmark. These COPCs are then compared to the background data (e.g. using statistical tests to compare data sets). If the site data for a particular COPC is deemed **not comparable** to background data for that same constituent, then it is considered to be site-related. Thus, the COPC will be retained for further evaluation in the quantitative baseline human health risk assessment (i.e. exposure scenarios will be run and an estimate of risk will be calculated for the constituent).

Those constituents that **are comparable** to background levels will not be run through the quantitative baseline human health risk assessment and are therefore deemed representative of background conditions. The background levels are then compared to risk-based benchmarks, and qualitative statements can be made regarding possible risks associated with exposure to those levels. This information will be provided in the risk characterization phase of the baseline human health risk assessment for use by other agencies that may find it useful. It is important to note, that an estimate of risk will not be calculated for non-site related constituents during this step

The overall process as described in the CNO Policy serves 2 purposes, (1) it ensures that restoration funds are used solely for the clean-up of site-related COPCs and (2) it provides information to the regulatory community and the public regarding natural and/or anthropogenic background conditions that may pose a risk.

22. *Comment: Tables 6-2.1 & 6-2.2 See Specific Comment 28.*

Response: Tables 6-2.1 & 6-2.2 will be revised consistent with the response to Comment 28.

- 28 *Comment: The responses to Specific Comments 22 and 28 indicate that the Navy intends to use background data that contain all non-detected results in the comparison of site specific data to background. For example, selenium, silver and sodium in the surface soil background data set and selenium and sodium in the subsurface soil background data set had no positively detected values. However, as shown on Tables P-18 (surface soil) and Q-19 (subsurface soil), background comparisons were performed for these analytes in these media. This procedure is not acceptable to EPA and is not consistent with procedures used by the Navy at other sites in Region 1. The first step in the background comparison process is to reject from consideration any constituent where the frequency of detection in the background data set does not exceed 0%. To maintain consistency in the statistical approach to background evaluation used by the Navy at facilities in Region 1, a similar decision tree step should be incorporated into the background comparison process for OFFTA. Although it is possible to generate statistics for background data sets with zero detected values by*

Response to Additional EPA Comments
Old Fire Fighting Training Area Revised Draft Final RI

using surrogate values for non-detected results, it is not a conservative approach to suggest that site data for constituents with positively detected values could be comparable to background concentrations where no positively detected results were obtained. Comparisons of site data to background data using background data sets where the frequency of detection does not exceed 0% will not be accepted by EPA and should be removed from this RI report.

Response: Selenium, silver, and sodium in the background surface soil data set and selenium and sodium in the background subsurface soil data set were not determined to be above background based on statistical tests. However, due to the presence of non-detected values in the background data, these statistical tests had very little power to identify potential high values in the site data set. Therefore, the report will be revised to consider the background test results for these chemicals as not applicable and the decision to retain or discard these chemicals as COPCs will be based solely upon comparison to risk-based screening levels.



DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, D.C. 20350-2000

IN REPLY REFER TO

5090

Ser N453E/OU595690

18 SEP 2000

From: Chief of Naval Operations (N45)
To: Commander, Naval Facilities Engineering Command
Subj: NAVY INTERIM FINAL POLICY ON THE USE OF BACKGROUND
CHEMICAL LEVELS

Encl: (1) Navy Interim Final Policy on the Use of Background
Chemical Levels

1. Enclosure (1) is provided in response to concerns received from the field to clarify Navy policy on the consideration of background chemicals in the list of Contaminant of Potential Concern in the Environmental Restoration program. Enclosure (1) describes how to consider background chemical levels in the program by 1) identifying those chemicals that are in the environment due to releases from the site; 2) eliminating from consideration in the risk assessment process both naturally occurring and anthropogenic chemicals that are present at levels below background; 3) ensuring documentation and discussion of potential risk from chemicals that have been eliminated during the background evaluation process; and 4) developing remediation action levels that are not below background.

2. My point of contact for this matter is Wanda L. Holmes at (703) 604-5420 or DSN 664-5420 or email holmes.wanda@hq.navy.mil.

L. C. BAUCOM
Rear Admiral, U.S. Navy
Director, Environmental
Protection, Safety, and
Occupational Health Division

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Subj: NAVY INTERIM FINAL POLICY ON THE USE OF BACKGROUND
CHEMICAL LEVELS

Copy to: (continued)

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**NAVY INTERIM FINAL POLICY
ON USE OF
BACKGROUND CHEMICAL LEVELS**

PURPOSE

The purpose of this policy is to address background chemical levels from naturally occurring and anthropogenic sources and their use in the Environmental Restoration Program. This policy was developed in response to issues concerning identification of sites for no further action, the elimination of background chemicals from the Contaminant of Potential Concern (COPC) list, and the identification of action levels at sites where it has been determined there is a need for remediation.

APPLICABILITY

Policies and procedures contained herein apply to site cleanups funded under Environmental Restoration, Navy (ER,N) and Base Realignment and Closure (BRAC).

DEFINITIONS OF BACKGROUND CHEMICAL:

- **Naturally occurring chemical levels (non-anthropogenic) -**
Ambient concentrations of chemicals present in the environment that has not been influenced by human activities (e.g., arsenic). (Risk Assessment Guidance for Superfund Part A (RAGS Part A), EPA 1989)
- **Anthropogenic chemical levels (non-naturally occurring) -**
Concentrations of chemicals that are present in the environment due to human-made, non-site sources (e.g., application of pesticides, herbicides, lead from automobile exhaust). (RAGS Part A EPA, 1989)

POLICY

This policy requires that:

- 1) There is a clear and concise understanding of chemicals that are released from a site thus ensuring Navy is focusing on remediating the release.
- 2) Baseline risk assessments should not be conducted on chemicals that are present at levels less than background chemical levels. All chemicals that are screened out as a result of background considerations shall be discussed and documented in the risk characterization section of the baseline risk assessment report. (See Figure 1)
- 3) Site cleanup remedial goals are not below background levels.

Background evaluations should be conducted during site investigations in order to differentiate between the Navy's cleanup responsibilities and background sources. The COPC selection process (which includes elimination of chemicals on the basis of background evaluation) should be discussed as early as possible with regulators and communicated to the community. The evaluation of background chemicals shall be scientifically based, defensible, and cost effective.

Background Chemicals

Background chemical evaluation is one of the tools used to determine the COPC. RAGS Part A, EPA 1989 states "Background sampling is conducted to distinguish site-related contamination from naturally occurring or other non-site related levels of chemicals." Background chemical levels do not signify a release of a hazardous substance according to the definition of a release as stated in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Background chemicals are either naturally occurring in soil, surface water and sediments or are anthropogenic (placed there by human activities). Background distributions can range from localized to ubiquitous (widespread; e.g. pesticides, Polycyclic Aromatic Hydrocarbons) in certain areas. Often times naturally occurring, ubiquitous chemicals may be present in the environment due to natural sources (e.g. forest fires) (RAGS Part A, EPA 1989). Understanding the nature of

the potential release of the site is the first step in determining the risk posed by the site.

Naturally Occurring Chemical Levels (NOCL)

Naturally occurring background chemicals and their levels are substances that occur regardless of the presence or absence of human activity. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104(3)(A) states "Limitation on Response. The President shall not provide for a removal or remedial action under this section in response to a release or threat of release of a naturally occurring substance in its unaltered form..."

Anthropogenic Chemical Levels (ACL)

Anthropogenic background chemicals and their levels are substances that are in the environment as a result of human activities. Standard application (i.e., applied according to directions) of chemicals (e.g. pesticides and herbicides) are to be considered anthropogenic levels when it can be demonstrated that on-site and background levels are similar.

Base-wide Background Chemical Levels

To fully understand the nature of the site it is necessary to distinguish between releases caused by Navy operations and chemicals from those caused by non-site related sources (background). Base-wide background chemical levels should be established and considered as early as the Preliminary Assessment/Site Inspection phase of the CERCLA process or the Resource Conservation and Recovery Act (RCRA) Facility Investigation of the RCRA process. Establishing scientifically defensible background chemical levels early in the process provides rationale to support no further action decision for sites with 'no site releases'.

Risk Assessment

Background chemicals should be considered during the screening portion of the Human Health Risk Assessment (HHRA) and during Step 3a of the Tier 2 Baseline Ecological Risk Assessment (BERA) (CNO Policy April 1999). It is important to establish site contaminants early in the

cleanup process and the evaluation of background chemicals during the screening HHRA and Step 3a of the BERA will assist in the identification of those contaminants that are truly the result of a past release. Once background chemical levels have been established those chemicals should not be carried through the remainder of the baseline risk assessment.

In some cases, there may be risk associated with chemical levels below background levels. This risk is outside of the scope of the Navy's Environmental Restoration Program but it should be communicated to our stakeholders. Elevated chemicals that were lower than background levels and screened out due to background considerations in the data evaluation step of the baseline risk assessment should be compared to the appropriate risk-based benchmark concentrations. The results should be documented in the Risk Characterization section of the baseline risk assessment report.

Cleanup Action Levels

The action level for the remediation of sites should be risk-based, should not be below background levels, and should target the risk associated with the COPC or contaminant concentration exceeding background chemical levels (i.e. incremental risk). Note that there may be other Applicable Relevant and Appropriate Requirements that should be considered.

Conclusion

In summary: 1) identify those chemicals that are in the environment due to releases from the site; 2) eliminate from consideration in the baseline risk assessment process both naturally occurring and anthropogenic chemicals that are present at levels below background and document those chemicals in the baseline risk assessment report; and 3) develop remediation action levels that are not below background.

Use of Background Chemical Levels

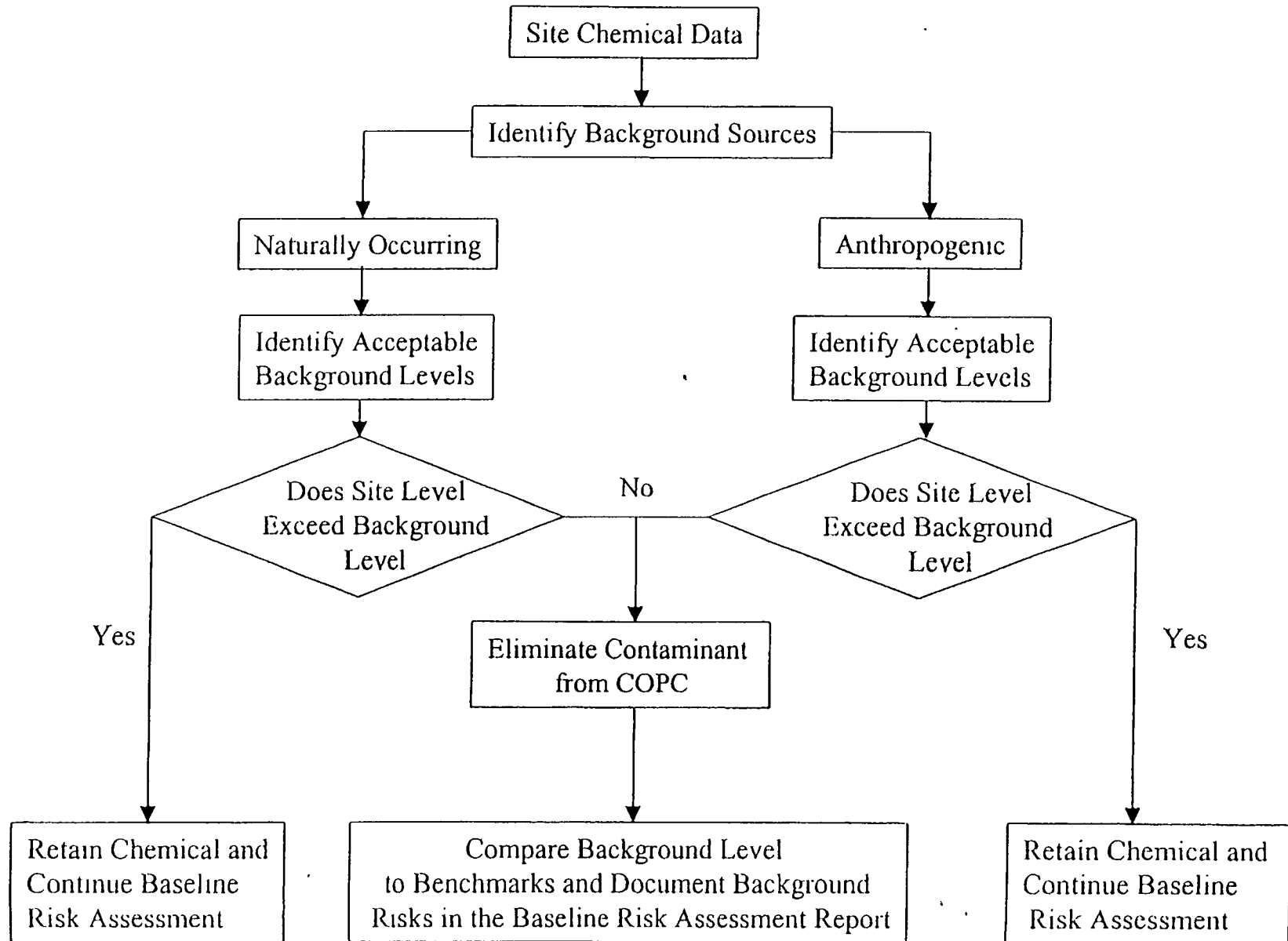


Figure 1

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Response: A discussion of the remaining chemicals discarded from consideration as COPCs will be added to the uncertainty section.

6. *Comment: The Navy Interim Final Policy was not developed in accordance with EPA Region 1 guidance (EPA, August 1995) regarding the elimination of COPCs based on background comparison. Moreover, EPA has not endorsed use of the procedures outlined in this policy for the OFFTA site.*

Sections 1.1 (b), 2.6, and 6.1 of the Federal Facilities Agreement require that remedial investigations under CERCLA are conducted in accordance with EPA regulations, policy, and guidance. Therefore, chemicals should not be eliminated from the risk assessment based on background comparisons during the COPC selection process. These chemicals should be quantitatively evaluated in the risk assessment and comparisons to background should be performed in the risk management process.

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DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, D.C. 20350-2000

IN REPLY REFER TO

5090

Ser N453E/OU595690

18 SEP 2000

From: Chief of Naval Operations (N45)
To: Commander, Naval Facilities Engineering Command
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L. C. BAUCOM
Rear Admiral, U.S. Navy
Director, Environmental
Protection, Safety, and
Occupational Health Division

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Subj: NAVY INTERIM FINAL POLICY ON THE USE OF BACKGROUND
CHEMICAL LEVELS

Copy to: (continued)

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**NAVY INTERIM FINAL POLICY
ON USE OF
BACKGROUND CHEMICAL LEVELS**

PURPOSE

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- 3) Site cleanup remedial goals are not below background levels.

Background evaluations should be conducted during site investigations in order to differentiate between the Navy's cleanup responsibilities and background sources. The COPC selection process (which includes elimination of chemicals on the basis of background evaluation) should be discussed as early as possible with regulators and communicated to the community. The evaluation of background chemicals shall be scientifically based, defensible, and cost effective.

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Use of Background Chemical Levels

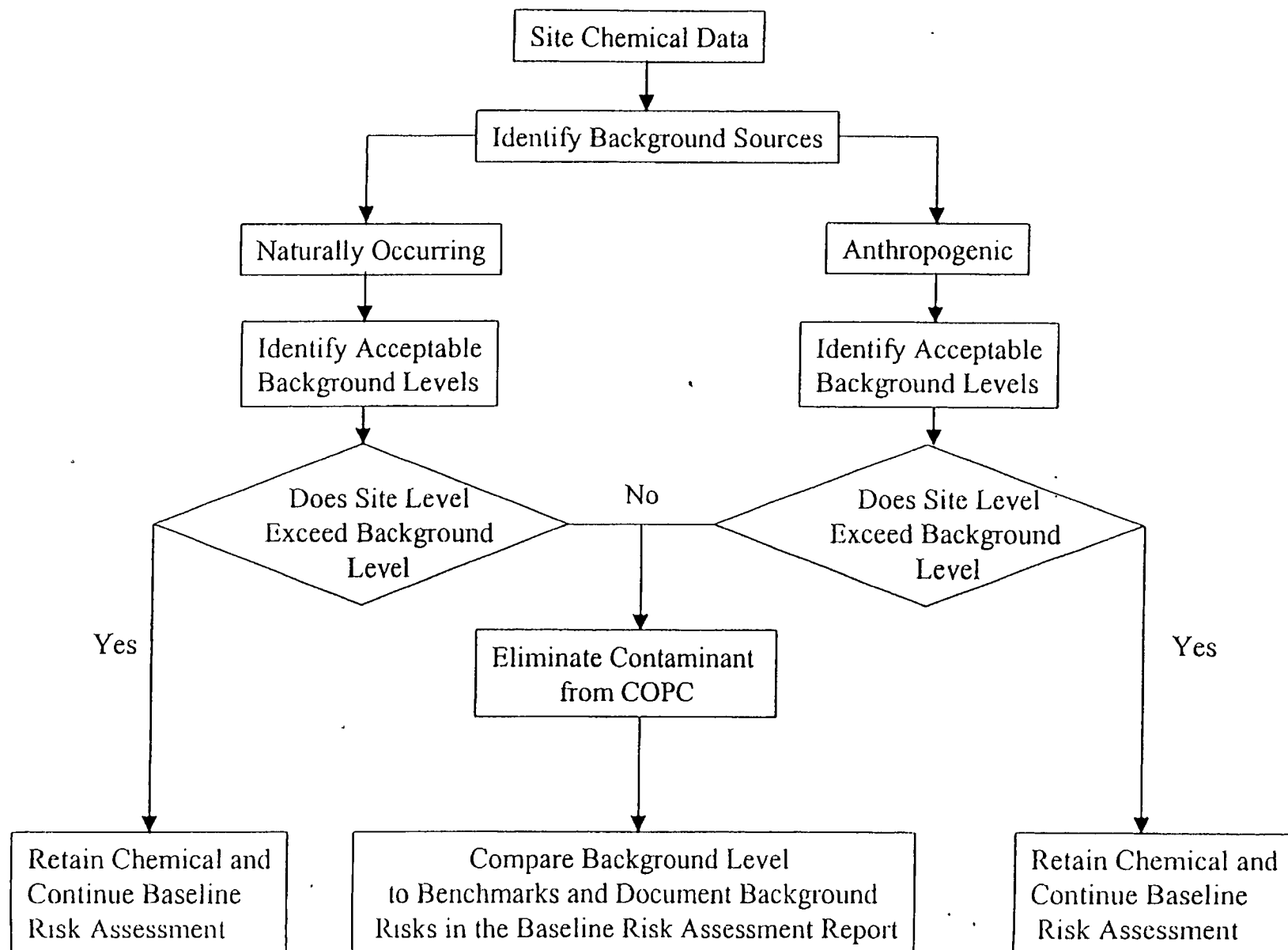


Figure 1

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Comments dated January 16, 2001

No. Comment/Response

5. *Comment: The only chemicals discussed in the uncertainty section are those chemicals which were retained as COPCs and given the NTX designation. There are several chemicals (metals) which were not retained as COPCs with the rationale that they were not retained due a lack of toxicity values. These chemicals should also be retained as COPCs and evaluated qualitatively in the uncertainty section of the risk assessment. In addition, delta-BHC is retained as COPC (NTX) in subsurface soil (Table 6-2.2), but not included in the uncertainty section discussion. Please include a discussion on this chemical as well.*

Response. A discussion of the remaining chemicals discarded from consideration as COPCs will be added to the uncertainty section.

6. *Comment: The Navy Interim Final Policy was not developed in accordance with EPA Region 1 guidance (EPA, August 1995) regarding the elimination of COPCs based on background comparison. Moreover, EPA has not endorsed use of the procedures outlined in this policy for the OFFTA site.*

Sections 1.1 (b), 2.6, and 6.1 of the Federal Facilities Agreement require that remedial investigations under CERCLA are conducted in accordance with EPA regulations, policy, and guidance. Therefore, chemicals should not be eliminated from the risk assessment based on background comparisons during the COPC selection process. These chemicals should be quantitatively evaluated in the risk assessment and comparisons to background should be performed in the risk management process.

EPA guidance clearly states the COPC list is to be developed based primarily on comparison to risk-based standards (RBCs or PRGs). Risk estimates are to be calculated for all COPCs. In the risk management stage of the RI, statistical comparison to sound background data may be used to determine if risk drivers are present owing to background conditions. At this point, risk managers may agree to exclude a risk driver from the COC in the Record of Decision if the risk driver is clearly present owing to background conditions.

It is particularly important to evaluate the arsenic data closely because naturally occurring arsenic can become more bioavailable in the presence of petroleum products. (As you know, oil and gasoline were reportedly used onsite to ignite structures for fire training purposes.) I recommend that the RI focus its efforts on the risk characterization. In an effort to reach resolution, the RI should provide a quantitative estimate of the risk that is associated with the background chemicals (I note, however, that a background value for arsenic is still under negotiation with RIDEM). This approach would allow evaluation of whether any of these "background" contaminants should, in fact, be considered Chemicals of Concern in subsequent decisions, and it would provide clear information about risks from all exposures to communicate to the community and other stakeholders. I understand that this is an approach that Navy headquarters supports. As you know EPA's national guidance on this issue will be issued shortly and will be consistent with the Region I Risk Update (EPA, August 1995).

Response: The CNO Interim Final Policy on the Use of Background Chemical Levels was developed after consultation with representatives from U.S. EPA HQ. The use of background data, as currently described in the Policy, was acceptable to these representatives. The CNO Policy is consistent with CERCLA because CERCLA precludes cleaning up naturally occurring constituents at background levels:

"The President shall not provide for a removal or remediation action under this section in response to a release or threat of a release of a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena, from a location where it is naturally found...." CERCLA [Section 9604(a)(3)]

In addition the CNO Policy is also consistent with RAGS:

"Background sampling is conducted to distinguish site-related contamination from naturally occurring or other non-site related levels of chemicals."

U.S. EPA, RAGS Part A, 12/89

It is very important to distinguish between site-related and background constituents. The Navy is not responsible for cleaning-up or evaluating risk associated with background constituents, only site-related constituents. By following the process established in Figure 1 of the CNO Background Policy (attached), both site data and background data are collected. The site data is first screened against risk-based benchmarks (e.g. Region 9 PRGs or Region 3 RBCs). From this step, a list of COPCs is developed from constituents exceeding the appropriate benchmark. These COPCs are then compared to the background data (e.g. using statistical tests to compare data sets). If the site data for a particular COPC is deemed **not comparable** to background data for that same constituent, then it is considered to be site-related. Thus, the COPC will be retained for further evaluation in the quantitative baseline human health risk assessment (i.e. exposure scenarios will be run and an estimate of risk will be calculated for the constituent).

Those constituents that **are comparable** to background levels will not be run through the quantitative baseline human health risk assessment and are therefore deemed representative of background conditions. The background levels are then compared to risk-based benchmarks, and qualitative statements can be made regarding possible risks associated with exposure to those levels. This information will be provided in the risk characterization phase of the baseline human health risk assessment for use by other agencies that may find it useful. It is important to note, that an estimate of risk will not be calculated for non-site related constituents during this step

The overall process as described in the CNO Policy serves 2 purposes; (1) it ensures that restoration funds are used solely for the clean-up of site-related COPCs and (2) it provides information to the regulatory community and the public regarding natural and/or anthropogenic background conditions that may pose a risk.

22. *Comment: Tables 6-2.1 & 6-2.2 See Specific Comment 28.*

Response: Tables 6-2.1 & 6-2.2 will be revised consistent with the response to Comment 28.

28. *Comment: The responses to Specific Comments 22 and 28 indicate that the Navy intends to use background data that contain all non-detected results in the comparison of site specific data to background. For example, selenium, silver and sodium in the surface soil background data set and selenium and sodium in the subsurface soil background data set had no positively detected values. However, as shown on Tables P-18 (surface soil) and Q-19 (subsurface soil), background comparisons were performed for these analytes in these media. This procedure is not acceptable to EPA and is not consistent with procedures used by the Navy at other sites in Region 1. The first step in the background comparison process is to reject from consideration any constituent where the frequency of detection in the background data set does not exceed 0%. To maintain consistency in the statistical approach to background evaluation used by the Navy at facilities in Region 1, a similar decision tree step should be incorporated into the background comparison process for OFFTA. Although it is possible to generate statistics for background data sets with zero detected values by*

Response to Additional EPA Comments
Old Fire Fighting Training Area Revised Draft Final RI

using surrogate values for non-detected results, it is not a conservative approach to suggest that site data for constituents with positively detected values could be comparable to background concentrations where no positively detected results were obtained. Comparisons of site data to background data using background data sets where the frequency of detection does not exceed 0% will not be accepted by EPA and should be removed from this RI report.

Response. Selenium, silver, and sodium in the background surface soil data set and selenium and sodium in the background subsurface soil data set were not determined to be above background based on statistical tests. However, due to the presence of non-detected values in the background data, these statistical tests had very little power to identify potential high values in the site data set. Therefore, the report will be revised to consider the background test results for these chemicals as not applicable and the decision to retain or discard these chemicals as COPCs will be based solely upon comparison to risk-based screening levels.



DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, D.C. 20350-2000

IN REPLY REFER TO

5090

Ser N453E/OU595690

18 SEP 2000

From: Chief of Naval Operations (N45)
To: Commander, Naval Facilities Engineering Command

Subj: NAVY INTERIM FINAL POLICY ON THE USE OF BACKGROUND
CHEMICAL LEVELS

Encl: (1) Navy Interim Final Policy on the Use of Background
Chemical Levels

1. Enclosure (1) is provided in response to concerns received from the field to clarify Navy policy on the consideration of background chemicals in the list of Contaminant of Potential Concern in the Environmental Restoration program. Enclosure (1) describes how to consider background chemical levels in the program by 1) identifying those chemicals that are in the environment due to releases from the site; 2) eliminating from consideration in the risk assessment process both naturally occurring and anthropogenic chemicals that are present at levels below background; 3) ensuring documentation and discussion of potential risk from chemicals that have been eliminated during the background evaluation process; and 4) developing remediation action levels that are not below background.

2. My point of contact for this matter is Wanda L. Holmes at (703) 604-5420 or DSN 664-5420 or email holmes.wanda@hq.navy.mil.

L. C. BAUCOM
Rear Admiral, U.S. Navy
Director, Environmental
Protection, Safety, and
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Subj: NAVY INTERIM FINAL POLICY ON THE USE OF BACKGROUND
CHEMICAL LEVELS

Copy to: (continued)

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**NAVY INTERIM FINAL POLICY
ON USE OF
BACKGROUND CHEMICAL LEVELS**

PURPOSE

The purpose of this policy is to address background chemical levels from naturally occurring and anthropogenic sources and their use in the Environmental Restoration Program. This policy was developed in response to issues concerning identification of sites for no further action, the elimination of background chemicals from the Contaminant of Potential Concern (COPC) list, and the identification of action levels at sites where it has been determined there is a need for remediation.

APPLICABILITY

Policies and procedures contained herein apply to site cleanups funded under Environmental Restoration, Navy (ER,N) and Base Realignment and Closure (BRAC).

DEFINITIONS OF BACKGROUND CHEMICAL:

- **Naturally occurring chemical levels (non-anthropogenic) -**
Ambient concentrations of chemicals present in the environment that has not been influenced by human activities (e.g., arsenic). (Risk Assessment Guidance for Superfund Part A (RAGS Part A), EPA 1989)
- **Anthropogenic chemical levels (non-naturally occurring) -**
Concentrations of chemicals that are present in the environment due to human-made, non-site sources (e.g., application of pesticides, herbicides, lead from automobile exhaust). (RAGS Part A EPA, 1989)

POLICY

This policy requires that:

- 1) There is a clear and concise understanding of chemicals that are released from a site thus ensuring Navy is focusing on remediating the release.
- 2) Baseline risk assessments should not be conducted on chemicals that are present at levels less than background chemical levels. All chemicals that are screened out as a result of background considerations shall be discussed and documented in the risk characterization section of the baseline risk assessment report. (See Figure 1)
- 3) Site cleanup remedial goals are not below background levels.

Background evaluations should be conducted during site investigations in order to differentiate between the Navy's cleanup responsibilities and background sources. The COPC selection process (which includes elimination of chemicals on the basis of background evaluation) should be discussed as early as possible with regulators and communicated to the community. The evaluation of background chemicals shall be scientifically based, defensible, and cost effective.

Background Chemicals

Background chemical evaluation is one of the tools used to determine the COPC. RAGS Part A, EPA 1989 states "Background sampling is conducted to distinguish site-related contamination from naturally occurring or other non-site related levels of chemicals." Background chemical levels do not signify a release of a hazardous substance according to the definition of a release as stated in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Background chemicals are either naturally occurring in soil, surface water and sediments or are anthropogenic (placed there by human activities). Background distributions can range from localized to ubiquitous (widespread; e.g. pesticides, Polycyclic Aromatic Hydrocarbons) in certain areas. Often times naturally occurring, ubiquitous chemicals may be present in the environment due to natural sources (e.g. forest fires) (RAGS Part A, EPA 1989). Understanding the nature of

the potential release of the site is the first step in determining the risk posed by the site.

Naturally Occurring Chemical Levels (NOCL)

Naturally occurring background chemicals and their levels are substances that occur regardless of the presence or absence of human activity. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104(3)(A) states "Limitation on Response. The President shall not provide for a removal or remedial action under this section in response to a release or threat of release of a naturally occurring substance in its unaltered form..."

Anthropogenic Chemical Levels (ACL)

Anthropogenic background chemicals and their levels are substances that are in the environment as a result of human activities. Standard application (i.e., applied according to directions) of chemicals (e.g. pesticides and herbicides) are to be considered anthropogenic levels when it can be demonstrated that on-site and background levels are similar.

Base-wide Background Chemical Levels

To fully understand the nature of the site it is necessary to distinguish between releases caused by Navy operations and chemicals from those caused by non-site related sources (background). Base-wide background chemical levels should be established and considered as early as the Preliminary Assessment/Site Inspection phase of the CERCLA process or the Resource Conservation and Recovery Act (RCRA) Facility Investigation of the RCRA process. Establishing scientifically defensible background chemical levels early in the process provides rationale to support no further action decision for sites with 'no site releases'.

Risk Assessment

Background chemicals should be considered during the screening portion of the Human Health Risk Assessment (HHRA) and during Step 3a of the Tier 2 Baseline Ecological Risk Assessment (BERA) (CNO Policy April 1999). It is important to establish site contaminants early in the

cleanup process and the evaluation of background chemicals during the screening HHRA and Step 3a of the BERA will assist in the identification of those contaminants that are truly the result of a past release. Once background chemical levels have been established those chemicals should not be carried through the remainder of the baseline risk assessment.

In some cases, there may be risk associated with chemical levels below background levels. This risk is outside of the scope of the Navy's Environmental Restoration Program but it should be communicated to our stakeholders. Elevated chemicals that were lower than background levels and screened out due to background considerations in the data evaluation step of the baseline risk assessment should be compared to the appropriate risk-based benchmark concentrations. The results should be documented in the Risk Characterization section of the baseline risk assessment report.

Cleanup Action Levels

The action level for the remediation of sites should be risk-based, should not be below background levels, and should target the risk associated with the COPC or contaminant concentration exceeding background chemical levels (i.e. incremental risk). Note that there may be other Applicable Relevant and Appropriate Requirements that should be considered.

Conclusion

In summary: 1) identify those chemicals that are in the environment due to releases from the site; 2) eliminate from consideration in the baseline risk assessment process both naturally occurring and anthropogenic chemicals that are present at levels below background and document those chemicals in the baseline risk assessment report; and 3) develop remediation action levels that are not below background.

Use of Background Chemical Levels

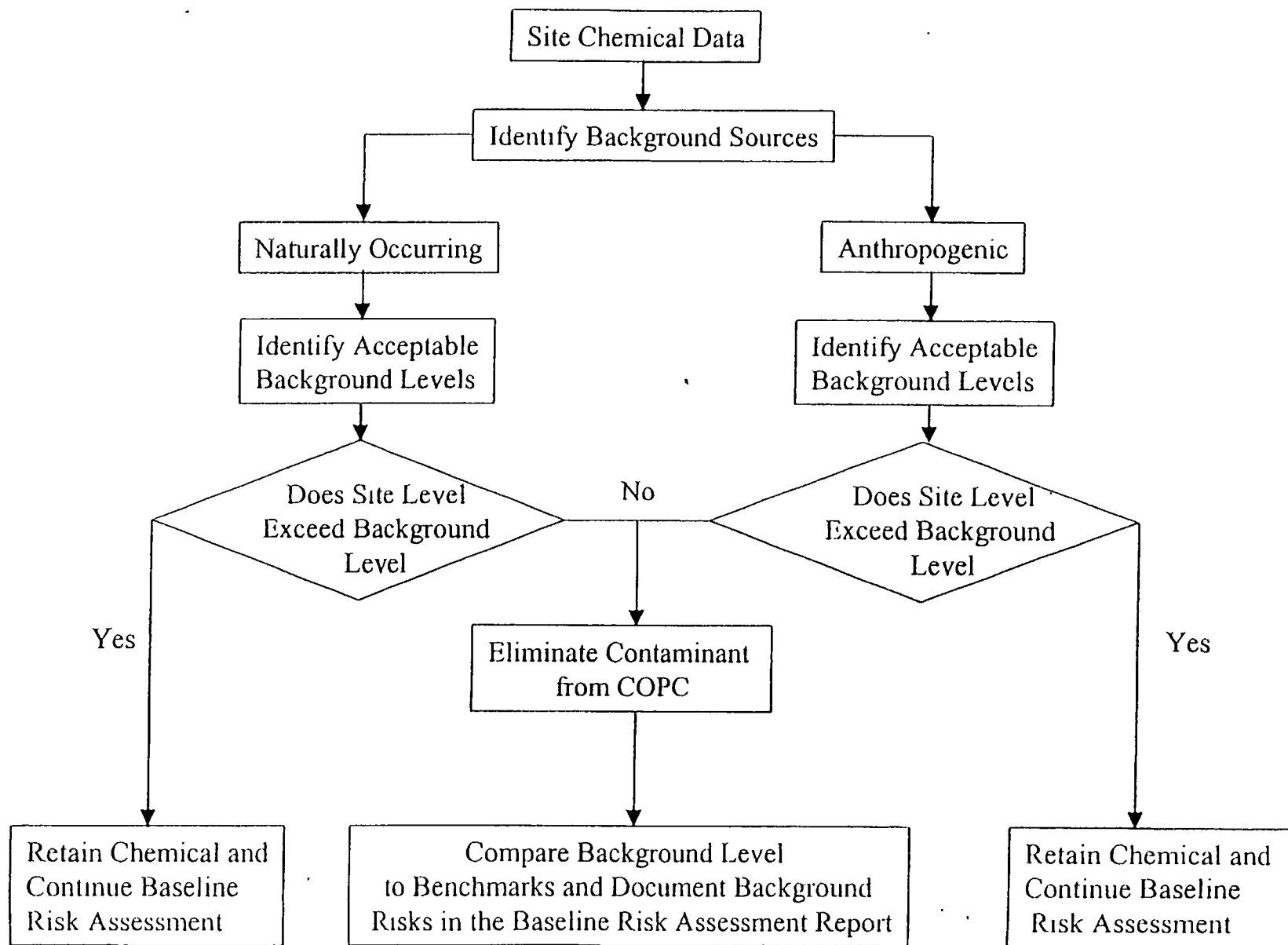


Figure 1